



*Review Article*

## **Sago Palm (*Metroxylon sagu* Rottb.): Now and Beyond**

**Leonard Whye Kit Lim<sup>1\*</sup>, Hung Hui Chung<sup>1</sup>, Hasnain Hussain<sup>2</sup> and Kopli Bujang<sup>2</sup>**

<sup>1</sup>*Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia*

<sup>2</sup>*Centre for Sago Research (CoSAR), Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia*

### **ABSTRACT**

The sago palm (*Metroxylon sagu* Rottb.) is one of the underutilized food crops that has the promising potential to strengthen food security program especially in Sarawak, Malaysia. Thriving well in harsh environments such as the freshwater swampy area, the sago palm is also unique for its ability to store starch within its trunk, compared to other types of starch storage organs. With its superb high starch yield as compared to commonly found starch sources such as the corn, rice and wheat, it is deemed as the palm of many uses. Researches sprouting from this unique palm come from various fields of study, namely microbiology, food technology, polymer synthesis, bioprocess technology and most recently, computational biology. In this review, we presented a survey of recently published results from each field and further provided future recommendations and knowledge gaps to be filled. It is hoped that with the consolidation of research talents and funding from around the world, the sago palm industry will be matured in time to equip mankind with the solutions to combat the oncoming global food scarcity issues.

**Keywords:** Food crop, food security, industry, starch yield, underutilized

### **ARTICLE INFO**

*Article history:*

Received: 10 January 2019

Accepted: 13 March 2019

Published: 30 May 2019

*E-mail addresses:*

lwkl1993@gmail.com (Leonard Whye Kit Lim)

hhchung@unimas.my (Hung Hui Chung)

hhasnain@unimas.my (Hasnain Hussain)

bkopli@unimas.my (Kopli Bujang)

\* Corresponding author

### **INTRODUCTION**

The sago palm (*Metroxylon sagu* Rottb.) is a true palm classified under the order Arecales, family Palmae and subfamily Calamidae. This palm can thrive well in low-land freshwater swamp and tropical rain forests and it is native to Southeast Asia including Papua New Guinea, Malaysia and